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Trauma, Deviant Sexual Arousal, and Sexual Aggression in Adolescent Male Sexual Offenders

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Trauma, Deviant Sexual Arousal, and Sexual Aggression

in Adolescent Male Sexual Offenders

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DISSERTATION

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DISSERTATION COMMITTEE PAGE

The undersigned have examined the dissertation entitled:

**TRAUMA, DEVIANT SEXUAL AROUSAL, AND SEXUAL AGRESSION IN
ADOLESCENT MALE SEXUAL OFFENDERS**

presented on July 26, 2013

by

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Table of Contents

Abstract.....	1
Chapter 1: Introduction.....	2
Statement of the Problem.....	2
Research Objectives.....	5
Proposed Implications of the Study.....	6
Research Questions.....	7
Chapter 2: Literature Review.....	9
Social Learning Theory.....	9
Social Learning Theory and Sexual Offending.....	14
Prevalence of Trauma Histories Among JSOs.....	19
Deviant Sexual Arousal.....	22
Relationship between Deviant Sexual Arousal and Trauma Histories In JSOs.....	23
Sexual Aggression.....	26
Relationship between Trauma and Sexual Aggression in JSOs.....	27
Relationship between Deviant Sexual Arousal and Sexual Aggression in JSOs.....	30
Chapter 3: Methods.....	33
Sample Characteristics.....	33
Methods.....	36
Measures.....	37
Chapter 4: Results.....	42
Chapter 5: Discussion.....	53
References.....	63

Abstract

Juvenile sexual abusers commit a significant proportion of the sexual offenses perpetrated in the United States each year. Researchers have identified several variables related to the etiology of sexual offending behavior in adolescent males. For example, there is evidence that both trauma and deviant sexual arousal have been independently linked to sexual aggression committed by adolescent sexual abusers. However, an etiological model that accounts for all of the variance with regard to sexual offending behavior or sexual recidivism in Juvenile Sex Offenders (JSOs) has not yet been developed. In the current study, a pre-existing data set of adjudicated JSOs who were incarcerated for sexual offenses at the time data was collected was used to examine several constructs. Self-report data about deviant sexual arousal and the youths' trauma histories were among the data that were collected from this sample, and were used as the two independent variables in the current study. Total number of victims, total force used in the sexual offense(s) and perpetration severity were used to represent three facets of sexual aggression, the dependent variable in the current study. The hypothesis underlying the current study was that deviant sexual arousal affects the interaction between a youth's trauma history and the extent to which he engaged in sexual aggression. In order to test this hypothesis a mediator analysis was performed to assess the amount of variance in the relationship between trauma and each of the three variables representing sexual aggression that can be explained by the presence of deviant sexual arousal. Deviant arousal added significantly to the amount of variance in both total force and number of victims after accounting for trauma in each model; these were additive models. Deviant arousal mediated the relationship between the youth's trauma history and perpetration severity.

Keywords: juvenile sex offenders, deviant sexual arousal, trauma, sexual aggression

Chapter 1

Every year in the United States, juvenile sex offenders commit a significant proportion of the total number of sexual crimes reported (Federal Bureau of Investigations (FBI), 2005, 2006, 2007, 2008, 2009). Understanding the factors that contribute to sexually aggressive behavior in this population is important in that it could potentially lead to a better understanding of treatment needs of individual adolescent sex offenders. In this study, the relationship between a youth's trauma history, the extent to which he endorses deviant sexual arousal, and the extent to which he engages in sexually aggressive behavior were examined. The hypothesis underlying this project is that the presence of deviant sexual arousal affects or changes the relationship between a youth's trauma history and the extent of his sexually aggressive behavior.

Statement of the Problem

Between 2005 and 2009, adolescent males committed approximately 20% of sexual assaults against female children and adults and 27% of arrests for other offenses of a sexual nature in the United States (FBI; 2005, 2006, 2007, 2008, 2009). Despite the fact that adolescent males commit a significant proportion of sexual assaults, it is only recently that increasing attention has been dedicated to understanding this population. For some time an assumption that adolescent sex offenders were similar to their adult counterparts steered assessment, treatment, and public policy in a direction that potentially ignored the needs of this population (Hunter, Figueredo, Malmuth, & Becker, 2003). Berman and Knight (2013) asserted that only through directly studying adolescent sex offenders will help researchers be able to provide crucial information about the etiology of sexual offending behavior in adolescents that will help inform treatment and risk management needs for individuals in this population.

Juvenile male sexual offenders are a heterogeneous group who differ along the lines of developmental histories, personality traits or styles (Hunter et al., 2003; Hunter, Figueredo, Malamuth, & Becker, 2004; Johnson & Knight, 2000; Worling, 1995, 2001), psychiatric comorbidity (Becker, 1998; Becker, Kaplan, Tenke, & Taraglini, 1991; Hunter et al., 2003; Fago, 2003) family characteristics (Blaske, Bourdin, Henggeler, & Mann, 1989; Gorman-Smith, Tolan, Zelli, Huesmann, & Rowell, 1996), and the patterns of sexual offending behaviors in which they engage (Knight & Prentky, 1993; Knight & Sims-Knight, 2004; Weinrott, 1996). These youth also demonstrate differences in the age of onset of their sexually abusive behavior, the extent to which their sexual offending persists, victim selection, and the type of behaviors in which they engage during their commission of their sexual offenses (Hunter, 2009; Worling, 1995).

One thing that is clear in the literature is that juvenile sex offenders have significant trauma histories. A history of sexual victimization has been recognized as being one of several contributing factors to the development of sexually abusive behavior established in the literature (i.e., Johnson & Knight, 2000). In some studies, researchers have reported a significant correlation between the extent to which a youth has been victimized (Veneziano, Veneziano, & LeGrand, 2000) and level of aggression used during the perpetration of offenses (Burton, 2000). Furthermore, Epperson, Ralston, Fowers, DeWitt, and Gore (2006) found that history of sexual victimization, was associated with higher rates of recidivism in JSOs in that as rate of sexual trauma increased, so did the recidivism rate.

However, researchers have also strongly suggested that most youth who are sexually victimized do not go on to sexually victimize others (Office of Juvenile Justice and Delinquency Prevention, 2001). Therefore, additional causative variables must be present in order for

sexually abusive behavior to develop in youth who have been sexually victimized (Garland & Dougher, 1990; Knight & Simms-Knight, 2004). One natural variable to consider, given the fact that many sexually abusive youth report histories of sexual abuse, is the presence of other types of childhood traumas.

For example, when examining rates of other types of trauma as potential etiological variables that contribute to sexual aggression in JSOs, researchers have found that rates of childhood physical abuse are significantly higher in juvenile sexual offenders than in their non-sexually abusive, delinquent counterparts (Burton & Schatz, 2003; Fehrenbach, Smith, Monastersky, & Deisher, 1986). One specific aspect of physical abuse (physical abuse by fathers) has also been positively correlated with increasingly deviant sexual acts in JSOs (Kobayashi, Sales, Becker, Figueredo, & Kaplan, 1995). In addition, physical abuse has been found by some researchers to be correlated to an increased rate of sexual recidivism in this population (Epperson et al., 2006).

Although the effects of emotional abuse on members of this population have been understudied (Yates & Wekerle, 2009), some researchers have also discussed this construct as being a significant etiological variable in the history of many juvenile sex offenders (i.e., Burton, 2000; Daversa & Knight, 2007). It has also been posited by some researchers (Daversa & Knight, 2007; Lee, Jackson, Pattison, & Ward, 2002), that emotional abuse may contribute to a JSO's preference for younger child victims, as those who reported higher rates of emotional abuse in childhood tended to victimize younger children.

With regard to physical and/or emotional neglect, juvenile sexual offenders have been reported to experience these types of trauma more often than non-sexually abusive delinquents (Burton, 2008). In fact, one study found that 90% or greater of the youth in their sample of JSOs

experienced physical and/or emotional neglect (Leibowitz, Laser, & Burton, 2011). A relationship between selection of younger victims and JSOs who reported experiencing some form of neglect in childhood has also been discussed in the literature (Daversa & Knight, 2007).

Despite the fact that deviant sexual arousal has been shown to be positively related to recidivism in adolescent sexual offenders in various ways (Hanson & Morton-Bourgon, 2005; Kenny, Keogh, & Seidler, 2001; Langstrom, 2002; Langstrom & Grann, 2000; Schram, Milloy, & Rowe, 1991; Worling & Curwen, 2000), there are very few studies in which researchers have examined the prevalence of deviant sexual arousal among adolescent sexual offenders.

The fact that deviant sexual arousal is retrospectively related in some manner to several variables that contribute to the etiology of sexually abusive behavior in JSOs, may indicate that deviant sexual arousal may be related to both the youths' past sexual aggression and sexual recidivism in this population. For example, Worling and Curwen (2000) found that self-reported arousal to prepubescent children was related to sexual recidivism in the sample of juvenile sex offenders they studied. Researchers have also found that JSOs who recidivated sexually were more likely to report deviant sexual fantasies, fantasies about prepubescent children or forced sexual acts (Kenny et al., 2001). Researchers have offered support for the link between a youth's sexual victimization history and deviant sexual arousal (Cooper, Murphy, and Haynes, 1996; Worling, 1995).

Due to the fact that there is debate in the literature about the extent to which the relationship between deviant sexual arousal and sexual recidivism in adolescent sexual offenders is a direct relationship (Kenny, Keough, & Seidler, 2001; Prentky, Harris, Frizzell, & Righthand, 2000), it is possible that the relationship between deviant sexual arousal and sexual recidivism is

more indirect; that is that deviant sexual arousal acts as a mediator that influences the relationship between other etiological variables and sexually aggressive behaviors.

Research Objectives

The objectives of this study were, first and foremost, to examine the prevalence and type of self-reported deviant sexual arousal in a convenience sample of adolescents who have been adjudicated for offenses of a sexual nature. Deviant sexual arousal is defined and the types of deviant stimuli to which the participants reported being aroused will be discussed. The second aim of this study was to review the preexisting literature concerning rates at which adolescent sexual offenders report experiencing five types of trauma (sexual abuse, physical abuse, emotional abuse, physical neglect, emotional neglect) and then to examine these rates in the current sample. Additionally, a third aim of the current study was to examine the way in which a youth's trauma history is related to his self-reported experience of deviant arousal.

The fourth and final aim of this study was to examine the sexually aggressive behaviors in which the youth in the convenience sample reported engaging. Sexual aggression was broken down into three components or outcome variables; number of victims, total force used in the commission of offending, Perpetration Severity, or P Score. In order to accomplish this objective, the amount of variance in the relationship between the youths' trauma histories and the extent to which they have engaged sexual aggression that were explained by the youths' self-reports of deviant sexual arousal was examined.

Proposed Implications of the Study

Although there is research examining the connections between trauma and deviant sexual arousal, trauma and sexual aggression, and deviant sexual arousal and sexual aggression, there is a paucity of research examining the way in which deviant sexual arousal affects or changes the

relationship between a youth's trauma history and the level of sexually aggressive behavior in which he engages. There are several reasons why deviant sexual arousal and the way in which it may affect the relationship between a JSO's trauma history and the extent to which he displays sexual aggression should be examined and better understood. However, one of the most salient reasons is because understanding the nature of this relationship could impact how treatment is delivered to sexually abusive youth. Research that examines the prevalence of deviant sexual arousal in adolescent offenders and the impact that said arousal has on the relationship between victimization history and sexual aggression could help inform assessment of treatment and risk management needs in that this relationship, if extant, could also help explain portions of the etiology of sexually aggressive acts committed by adolescent sex offender that have been previously unaccounted for in the literature pertaining to this population.

According to Berman and Knight (2013), "Whereas the majority of JSOs are time-limited offenders who do not continue sexually offensive activity into adulthood, the minority of JSOs will become re-offenders and make up approximately 50% of future ASOs [Adult Sex Offenders]," (p.4). Researchers have found sexual recidivism rates among juvenile sex offenders to range from 1.8% to 25% (Caldwell, 2007; Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001; Langstrom & Grann, 2000; Nisbet, Wilson, & Smallbone, 2004; Smith & Monasterky, 1986; Worling, 2001; Worling & Curwen, 2000; Worling & Langstrom, 2006), it is important to identify variables that could potentially be related to recidivism in this population. These findings highlight the potential impact of being able to prospectively identify the individuals in this group who are most likely to recidivate and create further victims.

Although etiological variables whose relationship to sexual recidivism in JSOs have been identified, etiological models that do exist do not account for all of the variance related to

sexually aggressive acts or sexual recidivism in this population. Epperson et al. (2006) assert that although risk is inherent to the individual, it is not static and, therefore, can be reduced through effective treatment and management. Therefore, if deviant sexual arousal does, in fact, serve as a moderator between trauma and sexual aggression and this relationship is somehow related to future instances of sexual aggression in JSOs, it is necessary to work toward improving our understanding of the nature of this relationship, with the goal of being to identify dynamic risk factors, which would allow treatment providers to deliver increasingly effective treatment.

Research Questions

Four research questions will be addressed descriptively: (a) What percentage of adolescent sex offenders in the sample endorses deviant sexual arousal of some kind?; (b) What percentage of youth in current sample reported histories of experiencing the five types of trauma?; (c) In what way, if any, are a youth's trauma history and his self-reported levels of deviant sexual arousal related?; and (d) What, if any, relationship exists between a youth's trauma history, the extent to which he reports deviant sexual arousal and the extent to which these youth engage in sexual aggression.

The hypothesis that underlies this study is that deviant sexual arousal affects the way that a youth's trauma history and the extent to which he engages in sexual aggression interact. In order to test my hypothesis that deviant sexual arousal mediates the relationship between a youth's victimization history and the extent to which he engages in sexually aggressive offending behaviors, a mediator analysis was performed to assess the amount of variance in the relationship between trauma and sexual aggression that can be explained by the presence of deviant sexual arousal.

Chapter 2: Literature Review

In this section, I describe the basic tenets of Social Learning Theory (Bandura, 1986) as well as the way in which this theory has been adapted and offered as an etiological model of the development of sexually abusive behavior in children and adolescents (the Abused/Abuser Hypothesis). While the Abused/Abuser Hypothesis as an etiological model for sexual offending behavior has found some support in the literature (Bandura & Walters, 1963; Burton & Meezan, 2004; Felson & Lane, 2009; Stinson et al., 2008; Waggoner & Boyd, 1941), it has also been reported that being sexually victimized is neither necessary, nor sufficient in accounting for sexually aggressive behaviors in juveniles (Widom, 1995, 1996). Therefore, I also review research on other variables that have been associated with the etiology of sexually abusive behavior, such as non-sexual trauma history and deviant sexual arousal with respect to how these variables have been discussed in relationship to sexually aggressive behavior.

Social Learning Theory

Across the available research, social learning theory is one of the most commonly proposed etiological model for sexual aggression in adults and adolescents (Burton & Meezan, 2004). While some of the earliest applications of social learning theory were exclusively applied to adult sexual offenders, authors of other early publications applied the principles of this model to explain sexual offenses committed by juvenile offenders (Bandura & Walters, 1963; Waggoner & Boyd, 1941).

In his most recent text pertaining to social learning theory, which he refers to as social cognitive theory, Bandura (1986) reviewed the theoretical underpinnings of his theory and examines the evidence in support of each component. In this work, Bandura discussed the

concept of observational learning, or learning that occurs through the process of modeling, upon which his theory rests and which is summarized below.

Observational Learning

The process of observational learning begins when an individual witnesses a behavior. The behavior is then committed to memory and then repeated, or modeled, by the youth. In addition to the behaviors that the youth learns in this manner, he or she will also come to internalize the emotions and thoughts that were expressed by the person from whom they learned the behavior. Bandura posited that four components are key to the process of observational learning; attentional processes, retention processes, production processes, and motivational processes (Bandura, 1969, 1977, 1986), the capacity for each increases with the developmental progress of an individual youth.

Attentional processes. Attentional processes refer to the extent to which attention is paid to the person modeling the behavior and the modeled event itself. Characteristics of the modeled event or the person acting as the model can change, augment or diminish the youth's attentional processes (Bandura, 1969, 1977, 1986). There are several characteristics of an event that have the potential to increase the likelihood that the youth will attend to a modeled behavior. For instance, the more meaningful, important, or impressive an event is perceived as being, the more likely the youth will be to learn it. The salience of an event could be increased if the behavior being modeled but the youth is evocative or if the event itself is perceived as unique or interesting (Bandura, 1986). Behaviors that are modeled repeatedly or behaviors that are followed by a reward can also cause the event to be regarded with increased salience by the youth (Akers, 1998; Akers & Sellers, 2004; Felson & Lane, 2009). The fact that rewarded behaviors are more likely to be reproduced is consistent with Bandura's (1977) argument that the

observed consequence of the behavior will impact the extent to which a modeled event will be reproduced. Further, if the modeled event includes behaviors that are at least somewhat familiar to the youth, the likelihood that the modeled behavior will be imitated is increased (Bandura, 1977).

The characteristics of the model him or herself can also impact the extent to which a modeled behavior will be reproduced by the youth. A strong model can be an individual who is important or attractive to a youth or someone who is able to capture and hold the youth's attention. Typically, strong models are individuals with whom the youth frequently spends time because these are the individuals whose behaviors they most often witness (Burton et al., 2002; Burton & Meezan, 2004; Faller, 1989; Kendall-Tackett, Meyer, Williams, & Finkelhor, 1993; Lawyer, Ruggerio, Resnick, Kilpatrick, & Saunders, 2006). Berman and Knight (2013) expanded on the concept of relatedness with regard to modeling and reported that the modeled behavior is most likely to be ongoing and reinforced when it is displayed by someone with whom the youth is cohabitating. This is consistent with Bandura's (1969) assertion that young children acquired both positive and negative behavior patterns and moral judgments through imitating those they trusted and respected.

The youth's level of development will affect his or her attentional processes; as the youth develops his ability to attend to more complex behavioral processes increases. Also, as the youth matures, he can also begin to appreciate that the meaning of behaviors is influenced by the social context in which they occur. Additionally, as the youth matures and his attentional processes and cognitive abilities continue to develop, his ability to discern nuances in behaviors may serve to increase the salience with which he regards a given behavior. Thus, older youth may be better able to recognize the more subtle aspects of an event (Burton & Meezan, 2004).

Retention processes. Retention processes are those aspects of cognition that are involved in internalizing and storing information gleaned from the modeled event. Bandura (1986) asserted that in order for a learned behavior to be reproduced initially that the learner must create a cognitive or symbolic representation of the behavior that will serve as a template against which he will compare his behavior. These symbols, when combined with other types of memories, allow the individual to recall what they have seen (Burton & Meezan, 2004). In his research, Bandura (1986) indicated that after repeated exposure to similar events the observer would be more likely to remember a prototype or a general ideal of the behavior as opposed to retaining specific memories of each of the individual events he has observed.

While cognitive rehearsal or reenactment through fantasy can strengthen the memory of an event, the most effective way of accurately retaining learned behavior is to actively engage in the behavior (Akers, 1998; Akers & Sellers, 2004). Reinforcement of cognitive rehearsal of an event may increase the chance that the youth will recall the actual or prototypical event (Burton & Meezan, 2004).

Similar to the other cognitive capacities that have been previously discussed as being involved in learning, the child's ability to remember an event and access those memories typically improves as he ages. Additionally, with age the child's language acquisition increases and he attains greater skills in symbolic representation, the accuracy with which he retains information will also increase. The opposite is also true; social or cognitive deficits may impede a youth's ability to accurately encode and retain information. Such deficits can result in the youth misunderstanding or misinterpreting the modeled event and any social nuances associated with it. This may result in a poor representation of the modeled event being stored and later reproduced (Burton & Meezan, 2004).

Production processes. Production processes are the means through which an event that has been witnessed and retained is subsequently reproduced. In order for this to be accomplished, the youth must first organize his memories into a set of stepwise behaviors. He must then reflect and compare the behavior he has produced with what he has experienced in order to discern whether the modeled event has been correctly reproduced. Production of a modeled even is the result of the process of matching one's behavior with the stored prototype of that behavior (Burton & Meezan, 2004).

There are several reasons why an individual might have difficulties matching what they are doing to what they have previously observed. One reason this may occur is if the individual has not viewed the modeled behavior frequently enough for an accurate set of memories to be encoded. If the youth witnessing the event has either cognitive or physical developmental limitations, this too may cause a discrepancy between what is witnessed and what is reproduced. However, if these limitations are a result of differing levels of development between the model and the witness, these differences can be overcome as the child ages and acquires additional cognitive and/or motor skills (Burton & Meezan, 2004).

Motivational processes. Motivational processes describe the different types of incentives by which behavior is reinforced or driven. Bandura (1986) describes three types of incentives: direct, vicarious, and self-generated or self-produced. Direct incentives are those received by the youth for producing the initial modeled event. Vicarious rewards are incentives the youth sees another receive for engaging in the modeled behavior, which leads him to assume he will receive the same reward if he behaves the same way. Self-generated incentives can be described as positive affect states that result from engaging in the identified behavior and increase the likelihood that the behavior will be reproduced. However, although incentives can increase the

likelihood that youth will learn and repeat a behavior, neither intrinsic nor external rewards need be present in order for observational learning or behavioral modeling to occur (Bandura, 1986). Once a behavior is preformed various reinforcements which can be physiological, affective, or cognitive in nature, may result in further reproduction of the behavior (Burton & Meezan, 2004). As children mature, they come to understand that rewards do not necessarily have a one-to-one correlation to behavior; they may need to produce a behavior more than once in order to obtain the desired reward (Burton & Meezan, 2004).

Social Learning Theory and Sexual Offending.

Given that a large number of children are sexually abused each year, it is not surprising that some researchers have used social learning theory to examine the impact of such abuse on the learning process and the potential development of sexual offending behavior (Stinson, Sales, and Becker, 2008; Widom, 1995, 1996).

Authors who have endorsed the abused-abuser hypothesis have posited that in some cases children who have been sexually abused model the actions of their abusers and go on to perpetrate sexual violence against others (i.e., Burton & Meezan, 2004; Felson & Lane, 2009). This variation of social learning theory was developed and applied to sexual offending to account for how several aspects of the experience of being sexually victimized might offer a possible explanation as to why some adolescents who have been sexually abused go on to victimize others. Some researchers have surmised that a number of children who are abused as children go on to abuse others as adolescents or adults because they have learned to be aroused by sexually deviant acts or stimuli (Burton & Meezan, 2004; Burton, Miller, & Schill, 2002; Burton, Nesmith, & Badten, 1997; Freeman-Longo, 1986; Freund & Kuban, 1994; Garland & Dougher, 1990; & Ryan, 2002).

The abused-abuser hypothesis has been posited by a number of researchers (Garland & Dougher, 1990; Jespersen, Lalumiere & Seto, 2009; Ryan, 1989) to explain the process by which sexual victimization is influenced by the context in which and the circumstances under which it occurs and subsequently results in sexually abusive behavior. By using social learning theory as a framework, these researchers have identified the process through which this learning occurs in addition to several key factors that contribute to determining whether deviant sexual arousal or behavior patterns will be learned by the individual victim (Stinson et al., 2008). One of the facts that supports the use of social learning theory as a viable way to explain sexually abusive behavior in adolescent males is the fact that this population reports higher rates of childhood sexual victimization than youth in community settings (Cooper et al., 1996; Hunter & Figueredo, 2000; Fehrenbach et al., 1986; Groth, 1977; Jespersen et al., 2009; Ryan, 1989) and delinquent non-sexually abusive youth (Burton, 2008; Burton, Miller, & Schill, 2001; Jespersen et al., 2009; Moody & Kim, 1994; Seto & Lalumiere, 2010). This fact is in line with the earlier discussed proposition that juvenile sex offenders were sexually victimized or saw others being sexually victimized and subsequently modeled their own sexually abusive behavior after that event (Bandura & Walters, 1963; Ryan, 1989).

The first stage in the abused-abuser hypothesis involves the sexual abuse of the youth and the resulting way the youth makes sense of, or meaning from, his victimization. As the victim makes attributions about the abuse and its possible causes, he may begin to develop a cognitive schema to help explain the abuse (Stinson et al., 2008). There are several different schemas that might be more conducive to the internalization of sexual arousal related to sexual abuse, such as a schema that conceptualizes the abuse as being normal, a schema that tells the victim that the behaviors is not harmful because he does not experience any pain as a result of it, or a schema in

which the youth construes the sexually abusive behavior being inflicted upon him as somehow pleasurable or rewarding (Briggs & Hawkins, 1996; Burton et al., 2002; Eisenman, 2000; Freeman-Longo, 1986; Hummel, Thomke, Oldenburger, & Specht, 2000). The development of anyone of the aforementioned schemas could support the development of future sexually abusive behavior.

The second stage of this process includes several factors that are fundamental to the social learning of sexually aggressive behavior or even deviant sexual interests in that they are hypothesized to increase the salience or relevance with which youth views the behavior (Stinson et al., 2008). Burton et al., (2002) and Garland and Dougher (1990) have discussed that one factor that has the potential to increase the salience of sexually abusive behavior as being the age at which the youth was abused, as younger children are more likely to simply imitate behavior they witness. The relationship between the victim and the offender is another factor that can influence the likelihood of sexually abusive behavior being recapitulated; the presumption is that if the victim is someone known to and trusted by the youth, then the abusive behavior is more likely to be reproduced by the victim (Burton et al., 2002; Burton & Meezan, 2004; Faller, 1989; Kendall-Tackett et al., 1993; Lawyer, Ruggiero, Resnick, Kilpatrick, & Saunders, 2006). A third factor that can influence the social learning process of sexually abusive behavior has to do with the type of sexual acts and the amount of force that are involved in the abuse perpetrated against the youth (Burton & Fleming, 2000; Burton et al., 2002; Daversa & Knight, 2007; Grabell & Knight, 2009). Another factor related to the social learning of sexually abusive or deviant behavior is the duration of the abuse in that as the period of time during which sexual abuse is perpetrated against the youth increases, the more frequently the youth will have the opportunity to observe the behavior and its consequences (Burton et al., 2002; Burton & Meezan, 2004).

Other factors that have been described as potentially having the ability to influence whether sexually abusive behavior will be emulated by sexual abuse victims concern the perpetrators of the abuse. Researchers have suggested that that being victimized by a male offender appears to increase the chances that the victim will learn sexually deviant interests or behaviors (Burton et al., 2002; Garland & Dougher, 1990; Kobayashi et al., 1995). It has also been hypothesized that being sexually abused by more than one perpetrator can increase the salience of sexual victimization (Freeman-Longo, 1986).

The third stage of the abused-abuser hypothesis involves the victim's initial response to the abuse as well as the reactions of those in whom he confides, should he decide to disclose his abuse. If the victim does not disclose the abuse it could mean one of two things; either that he does not believe telling anyone will help, or that the victim's thought process may already have been affected by the attributions he has made about the abuse. Regardless of the reason the youth does not report the abuse, it could have an impact on the social learning process in that it prevents the youth from receiving outside messages about the negative aspects of abuse, his lack of culpability, or it may prevent him from resolving his feelings about the abuse. As time progresses, dealing with abuse without the benefit of outside support can result in learned behaviors that result from that abuse, such as deviant sexual arousal or distorted views about sexual relationships (Stinson et al., 2008).

If, however, the victim does disclose the fact that he has been abused, the response of the person in whom he confides will play an important role in whether or not the abuse behaviors will be internalized. Reactions that convey indifference or disbelief may cause the youth to believe that the experience of being abused is not as bad as he initially thought it was. If the youth is made to feel that he overreacted, he may then come to view sexually abusive behavior as

being normalized. However, even if the victim's confidant responds in an appropriate manner, this does not insure that the victim will not become sexually abusive, as whether the offender receives punishment for the sexually abusive behavior is also important (Stinson et al., 2008).

Several findings that have been presented in recent research offer support of a social learning explanation for sexual offending. Adolescent sex offenders who report being sexually abused during childhood report several of the abuse characteristics noted in the abused-abuser hypothesis, such as multiple perpetrators, longer duration of abuse, age of the victim, use of coercion or force, and preexisting relationship between the victim and the abuser (Burton, 2000; Burton et al., 2002; Hummel et al., 2000; Seghorn et al., 1987).

However, researchers have also cautioned that victim to victimizer conceptual models need to take other confounding factors into consideration (Jonson-Reid, 1998). Jonson-Reid and Way (2001) concluded, "There is clearly an association between childhood victimization and youthful offending, but much remains to be discovered about how this relationship functions," (p. 121).

The fact that most children who are sexually abused do not go on to sexually abuse others as adolescents or adults (Stinson et al., 2008; Widom 1995) also points to the fact that the relationship posited in abused-abuser hypothesis is not definitive. In their review of all of the victim to victimizer literature available at that point in time, Garland and Dougher (1990), concluded that "the available evidence indicates that sexual behavior between an adult and child or adolescent is neither a necessary nor a sufficient cause of similar behavior in the child or adolescent...if sexual behavior with an adult is related to an...adolescent's repeating the behavior...it is related only in the context of other, interacting variables" (p. 505). This principle has also been supported by the work of Widom (1995, 1996), who also reported that a history of

sexual victimization is not necessarily predictive of future sexual aggressive acts.

Within the current literature, a broad range of statistics regarding the rates of sexual victimization in adolescents who have sexually abused other exists, which highlights the fact that not all juvenile sex offenders have been sexually abused. While it is likely that methodological differences account for significant variation in this data, the fact remains that at least some JSOs have not been sexually abused. That sexual abuse is neither necessary nor sufficient to explain the development of sexually offending behaviors in juvenile sex offenders is compatible with research suggesting other etiological variables that likely contribute to the development of sexually aggression in this population. Therefore, it is important to examine other etiological variables, such as experiences of other types of trauma, which may in and of themselves contribute to sexual aggression in JSOs is important. Research into ways in which different etiological variables interact with each other in sexually abusive youth also needs to be considered.

Prevalence of Trauma Histories among JSOs

Sexual Abuse

It has long been established in the literature that JSOs experience sexual victimization at higher rates than do youth in the community. In fact, some researchers have reported rates of sexual victimization among this population to range from 0% to 81% (Adler & Schulz, 1995; Awad, Saunders & Levene, 1984; Becker et al., 1986; Benoit & Kennedy, 1992; Berman & Knight, 2013; Burton, 2000; Cooper et al., 1996; Edwards, Beech, Bishopp, Erikson, Friendship & Charlesworth, 2005; Fehrenbach, Smith, Monasterky & Deisher, 1986; Gunn, 2008; Longo, 1982; Smith, 1988; Worling, 1995).

Methodological differences between these studies have been offered as one possible

explanation as to why such variations in rates of sexual victimization among sexually abusive youth exist. For example, Worling (1995) reported that 31% (n=395) of the 1,268 adolescent male sex offenders (a combined sample from several different studies) reported a history of sexual abuse; however, he noted a difference in the percentage of youth who endorsed a history of sexual victimization based on whether this data was collected pre- or post-treatment. In his reviews of the aforementioned studies that have reported varying rates of sexual victimization among adolescent sexual abusers, Burton (2000, 2008), pointed out that these studies were done in several different settings and has made the argument that differences between the groups of youth in these studies exist and may account for their differential placements. For example, youth placed in residential treatment facilities typically evidence more severe victimization histories (Burton, 2000; Moody & Kim, 1994), and commit offenses that are more severe in nature (Burton et al., 2002; Zakireh, Ronis, & Knight, 2008) than do adolescents in community-based samples (Smith, Monastersky, & Deisher, 1897; Worling, 2001; Zakireh et al., 2008). Regarding rates of sexual victimization in the general community, according authors of a 2011 report, less than 10% of all child abuse cases reported in all 52 states or territories in the United States involved sexual abuse (NCANDS). The fact that adolescent sexual offenders report sexual victimization rates that are significantly higher than their peers in the community lends support to the victim to victimizer hypothesis of sexual offending.

Physical Abuse

A review of the available literature suggests that rates of physical abuse in adolescent sexual offenders have been found to range from 13% to 81% (Awad & Saunders, 1991; Becker, Cunningham-Rathner, & Kaplan, 1986; Becker et al., 1986; Longo, 1982; Leibowitz et al., 2011; Lewis, Shanok, & Pincus, 1979; Righthand, Welch, Carpenter, Young & Scoular, 2001; Ryan,

Davis, Miyoshi, Lane, & Wilson, 1987; Way, 1999; Widom, 1996). Burton and Schatz (2003) compiled data from over 50 studies and found that the histories of sexually abusive youth evidenced higher rates of physical victimization than those reported by non-sexually abusive youth, which is consistent with previous literature on this subject (Fehrenbach et al., 1986; Johnson-Reid & Way, 2001).

Emotional Abuse

The effects of emotional abuse on children and adolescents in the general population are largely understudied (Yates & Wekerle, 2009). Although little research about emotional abuse in the JSO population has been published, in one study of JSOs 68% of the sample reported that they had experienced emotional abuse (Leibowitz et al., 2011). Burton (2000) found that adolescent offenders whose offending behavior began prior to the age of 12 and continued after that age, reported significantly higher rates of emotional abuse than early offenders (those who reported only engaging in sexually abusive behavior prior to the age of 12) or teen offenders (those with age of onset of offending beginning after age 12).

Physical & Emotional Neglect

In one study that examined rates of child maltreatment in a relatively small sample (N=96), Way (1999) found that 39.6% of the sample reported that they had experienced neglect of some sort. Similarly, Righthand et al.'s (2001) reported that 37% of the sexually abusive youth in their study reported histories of either physical or emotional neglect. In their 2011 study, Leibowitz, Laser, and Burton collected data about the extent to which the 502 sexually abusive youth in their sample had experienced physical and emotional neglect according to their self-reports on the Childhood Trauma, the same measure used to capture data related to trauma in the present study. Of the 502 youth that were surveyed in this study, physical neglect was

experienced by 90% of the sample and 99% of the youth reported having experienced emotional neglect at some point in time.

Deviant Sexual Arousal

Prevalence of Deviant Sexual Arousal in Juvenile Sex Offenders

While the term “deviant” could refer to any number of unusual or uncommon sexual interests, Worling (2012) asserted that when discussing individuals who commit sexual offenses, the term deviant most often refers to sexual interest in prepubescent children and/or sexual violence, which is consistent with how this construct has previously been discussed in the literature (Akerman & Beech, 2011; Association for the Treatment of Sexual Abusers, 2005; Barbaree & Marshall, 1988; Hunter & Becker, 1994). Hanson and Morton-Bourgon (2005), asserted, “Deviant sexual interests refer to enduring attractions to sexual acts that are illegal (e.g. sex with children, rape) or highly unusual (e.g. fetishism, autoerotic asphyxia).”

There is some research that exists that has examined the prevalence of deviant sexual arousal in juvenile sex offenders. The literature that has been published (Becker, Hunter, Stein, & Kaplan, 1989; Becker, Kaplan, & Tenke, 1992; Hunter, Goodwin, & Becker, 1994; Murphy, DiLillio, Haynes, & Steere, 2001) identifies the presence and prevalence of deviant sexual arousal, which ranged from 6% to 11% depending on the study, but in these studies deviant sexual arousal is examined in relation to retrospective offense characteristics and the offenders’ histories.

The Relationship between Deviant Sexual Arousal and Trauma Histories in JSOs

Sexual victimization histories and subsequent deviant sexual arousal in JSOs.

Several researchers have measured deviant sexual arousal in juvenile sex offenders who have histories of being sexually abused themselves. Through studies that have used penile

plethysmography, deviant sexual arousal has been shown to be retrospectively related to certain aspects of sexual offending in adolescent sexual offenders that are conceptualized as exemplifying deviant sexual arousal, such as male victims (Becker et al., 1989; Murphy et al., 2001) and higher rates of indiscriminate arousal (Becker, Kaplan, & Tenke, 1992).

In several previous studies that used physiological measures of arousal, such as penile plethysmographic (PPG) assessment, to assess deviant sexual arousal in JSOs, researchers found that adolescent sexual offenders who had abused only male victims demonstrated greater levels of deviant sexual arousal than those offenders who had only female victims or victims of both genders (Becker et al., 1989) and that a prior history of sexual victimization was associated with deviant sexual arousal in adolescent male sex offenders who had male child victims (Hunter et al., 1994; Clift, Rajlic, & Gretton, 2009). Offering further evidence that a relationship of some sort exists between sexual abuse history and deviant sexual arousal, Murphy et al., (2001) found that within their sample, JSOs with sexual victimization histories who had at least one male victim demonstrated the highest rates of deviant sexual arousal. However, in this study, the relationship between history of sexual victimization and deviant sexual arousal in JSOs was found to be slightly more complex and only became significant when the interaction between sexual victimization history and victim gender was examined.

Several researchers have suggested that that being victimized by a male offender appears to increase the chances that the victim will learn sexually deviant interests or behaviors (Burton et al., 2002; Garland & Dougher, 1990; Kobayashi et al., 1995), such as the selection of male child victims (Hunter et al., 2003; Worling, 1995). “Regardless of the reason, sexual victimization by a male adult against a male victim increases the strength of sexual deviance as a learned behavior....” (Stinson et al., 2008, p. 82).

Several differences have been shown to exist between adolescent sexual offenders with and without histories of sexual victimization. According to Burton and Meezan, (2004) the presence of a history of victimization is in certain ways related to victim characteristics, which could be conceptualized as being indirectly related to certain aspects of deviant sexual arousal, such as a preference for prepubescent children in general and male prepubescent children, specifically. For instance, Worling (1995) explored the relationship between sexual victimization history and victim gender. He found that 75% of the male youth that sexually offended against a male child in his sample reported sexual victimization where as only 25% of the youth in his sample who had female child victims reported such a history. Similarly, it has been reported that adolescent sexual offenders who had been sexually victimized were more likely to abuse male or both male and female children than their counterparts who did not report a history of sexual victimization (Cooper et al., 1996; Kaufman, Hilliker, & Daleiden, 1996). Juvenile sex offenders with histories of sexual victimization have also been found to select younger child victims than their non-sexually abuse counterparts (Kaufman et al., 1996).

Offering further support that a relationship exists between severity of a youth's own sexual victimization and greater sexual deviance, Zakireh et al., (2008) found that atypical paraphilias, exhibitionism, transvesticism, and voyeurism emerged as factors associated with sexual offending among youth in residential placements whose victimization histories more severe than their residentially placed non-sexually offending counterparts.

The aforementioned studies all illustrate the various ways in which histories of sexual victimization in JSOs have been shown to be correlated to offense characteristics thought to concretely exemplify aspects of deviant sexual arousal.

Physical abuse histories and deviant sexual arousal in JSOs. Kobayashi, Sales, Becker, Figueredo, & Kaplan (1995) found that physical abuse by fathers and sexual abuse by males correlates with more extensive deviant sexual acts performed by JSOs.

Emotional abuse histories and deviant sexual arousal in JSOs. Although there is very little research in which authors have investigated the relationship between a history of emotional abuse and the subsequent development of deviant sexual interests in JSOs, the authors who have researched this matter (Daversa & Knight, 2007; Lee, Jackson, Pattison, & Ward, 2002) reported that emotional abuse may be another type of childhood trauma that may contribute to an adolescent sexual abuser's preference for young children. If emotional abuse can, as suggested, predispose adolescent sexual offenders to select younger victims, which could be conceptualized as a manifestation of deviant sexual arousal, then the argument could be made that emotional abuse could be an etiological variable that contributes to sexual deviance.

Physical and emotional neglect histories and deviant sexual arousal in JSOs. It has been suggested that a history of experiencing neglect in childhood (Finkelhor, 1984) may be related to victimization of younger children by adolescent sexual offenders (Daversa & Knight, 2007). If victimization of younger children is conceptualized as a concrete way in which deviant sexual arousal to prepubescent children is operationalized, then it is possible that that experiencing neglect in childhood contributes to the development of deviant sexual arousal in JSOs.

Sexual Aggression

The Development of Sexual Aggression in Juvenile Sexual Offenders

Researchers have found that the development of sexually aggressive behaviors has multiple antecedents (Malamuth, 1986) and that it is displayed by a heterogeneous group of

offenders (Knight & Prentky, 1990). Malamuth, Sockloskie, Koss, and Tanaka (1991) posited that the development of coercive sexual behavior is linked to early childhood experiences and parent-child interactions. Such developmental insults as witnessing violence between caregivers and parent-child interactions marked by physical and sexual abuse may lead to the youth displaying violence toward women (Malamuth et al., 1991), and can sometimes result in youth with such histories being more likely to commit sexual offenses than community controls (Widom, 1995, 1996).

In their etiological model of sexual aggression, Knight and Simms-Knight (2004) asserted that although a linear relationship between adverse childhood experiences and sexual coercion does not exist, when abuse history is mediated through several different variables, the relationship is apparent. Knight, Prentky, and Kafka (2008) found that sexual behaviors and fantasies discriminated between sexually coercive and non-coercive males. Perhaps those JSOs who are exposed to certain types of abusive interactions during childhood are more likely, through the social learning mechanisms discussed earlier, to internalize their experience and the behaviors and fantasies referenced by Knight et al., (2008) are the way in which these youth rehearse these behaviors.

The idea of social learning can also be applied to Hunter et al.'s (2004) developmental model of sexual aggression in which they found that exposure to violence against females and exposure to male-modeled antisocial behavior indirectly contributed to sexually aggressive behavior against prepubescent children and peer-aged females, respectively. This explanation of sexually aggressive behavior in juvenile sexual offenders is predicated on the fact that youth must observe these behaviors. According to a social learning framework, observing these

behaviors from salient models would likely increase the chances they will be reproduced by the youth.

The Relationship between Trauma and Sexual Aggression in JSOs

Sexual victimization history and sexually aggressive behaviors in JSOs. The recognition of childhood sexual abuse as being one of several contributing factors to the development of sexually abusive behavior has been well established in the literature (i.e., Johnson & Knight, 2000). In the literature, a clear relationship has been established between sexual victimization of male children and the subsequent perpetration of sexual violence when those children reach adolescence (Johnson & Knight, 2000; Knight & Simms-Knight, 2003, 2004; Seto et al., 2010). Several authors have proposed that adolescent male sexual offenders may have experienced more severe sexual victimization than their non-sexually abusing delinquent peers (Freeman-Longo, 1986; Garland & Dougher, 1990; Burton, 2000).

There are several variables related to the youth's own sexual victimization that may contribute to the development of sexually aggressive behavior in juvenile sexual offenders including the age at which sexual victimization occurs, the severity of the victimization, the level of force used during the victimization, the frequency and duration of the abuse, the gender of the perpetrator, the number of perpetrators, and the difference in age between the victim and the offender (Garland & Dougher, 1990; Burton et al., 2002). More specifically, Burton et al., (2002) found that a youth was 23 times more likely to exhibit sexually abusive behavior if he was abused by both male and female perpetrators, if the perpetrator was related to the youth, if force was used by the perpetrator, if the youth was abused over a period of years, and if the perpetrator's acts included perpetration.

Some empirical literature has demonstrated that youth who are subject to more severe sexual victimization have an earlier onset of offending behavior than youth who begin sexually abusing others at a later age (Burton, 2000; Cooper et al., 1996; Wieckowski, Hartsoe, Mayer & Shortz, 1998). Those juvenile sexual offenders who had been abused began abusing others at an earlier age and had more victims, than their non-abused counterparts (Cooper et al., 1996; Becker & Stein, 1991; Kaufman et al., 1996; Murphy et al., 2001; Richardson, Kelley, Bhate, & Graham, 1997).

Additionally, the severity with which the JSO reported having been sexually victimized has been shown to be predictive of the severity of his own sexual offending behavior (Burton 2003). Burton, Duty, & Leibowitz (2011) found that sexually abused adolescent sexual offenders “have both more severe behavioral antecedents (i.e., trauma, family characteristics, early exposure to pornography, & personality) and recent behavioral differences (characteristics of sexual aggression, sexual arousal, use of pornography, & non-sexual criminal behavior) than the non-sexually victimized,” p.81). Epperson et al., (2005) have recently found that a history of childhood sexual victimization to be a useful static variable in the prediction of sexual recidivism.

Sexual victimization history may to a certain extent, predict the nature of the acts in which adolescent sexual abusers engage (Burton, 2003; DiCenso, 1992), and may be used to discriminate between sexually abusive youth and their non-sexual delinquent counterparts. This is in line with the fact that several authors have hypothesized that adolescent sexual abusers may have experienced more severe sexual abuse than non-sexual abusers (Freeman-Longo, 1986; Garland & Dougher, 1990; Burton, 2000). The suggestion that severity of sexual victimization history may be correlated to an increase in sexual aggression is in line with the victim to

victimizer hypothesis. The more severe the sexual victimization to which the youth is subjected, the greater the salience of the modeled event may be, which may result in increased memory of the event, or greater sequelae from the trauma, including engaging in sexually inappropriate (Kendall-Tackett et al., 1993), or aggressive (Burton, 2000) behavior. Burton & Meezan (2004) argue that more severe victimization should predict more severe or aggressive sexually abusive behavior.

The hypothesis posited by Burton and Meezan (2004) finds some support in the available literature. The severity of sexual victimization has been found to be related to the age at which youth begin to sexually abuse others; youth who begin to aggress at an earlier age report more severe sexual victimization histories than those whose onset of sexual offending is later in life (Burton, 2000; Cooper et al., 1996; Wieckowski, Hartsoe, Mayer & Shortz, 1998).

Physical abuse histories and sexual aggression in JSOs. Although the nature of the relationship between physical victimization and the subsequent development of sexual offending behavior in adolescent offenders remains unclear, it is evident that many sexually abusive youth have been the victims of physical violence. Johnson and Knight (2000) established that physical abuse indirectly affected the development of sexually coercive behavior in that it was predictive of certain delinquent behaviors, such as peer aggression and alcohol use in adolescence, both of which contribute to the development of misogynistic fantasies, the presence of which, in their sample increased the likelihood that the youth will subsequently display sexually coercive acts. White and Smith (2004) also found a relationship between physical abuse history and the commission of sexual assaults, which is consistent with Widom's (1995) work in which she reported that children who had histories of physical victimization were more likely to be arrested for certain offenses of a sexual nature than children who were sexually abused or neglected. The

fact that JSOs have been found to report higher rates of physical abuse than their non-sexually abusing delinquent counter parts (Burton, 2008) could also imply that physical abuse is an etiological variable that could contribute to the development of sexual aggression.

Emotional abuse histories and subsequent sexual aggression in JSOs. In their work, Zurbriggen, Gobin, and Freyd (2010) found emotional abuse to be robustly positively correlated with adolescent sexual perpetration and that the relationship held even after childhood sexual and physical abuse and social desirability were controlled for. These authors' finding seems to suggest that perhaps emotional abuse in and of itself may be an additional etiological variable that plays a role in the development of sexual aggression in JSOs.

The Relationship between Deviant Sexual Arousal and Sexual Aggression in JSOs

Deviant sexual arousal has been shown to be one of the most robust predictors of sexual recidivism in adult sex offenders (Hanson & Bussiere, 1996, 1998; Hanson & Morton-Bourgon, 2005; Mann, Hanson, & Thornton, 2010). For example, in their 2005 meta-analysis of 95 sexual offender recidivism studies, Hanson and Morton-Bourgon established that sexual deviancy is a significant risk factor for sexual recidivism among adult sex offenders. In their meta-analysis, which had a combined sample of over 10,000 adult males, Hanson & Bussiere (1998) found that the presence of deviant sexual arousal increases risk of sexual reoffending. Despite the fact that there is extensive literature that examines deviant sexual arousal in adult male sex offenders, research dedicated to examining the prevalence of deviant sexual arousal in adolescent sexual offenders and the way in which deviant sexual arousal impacts risk of sexual recidivism in this population is much less common. However, in the meta-analytic literature that does exist, deviant sexual arousal was determined to be a significant predictor sexual recidivism in adolescent sexual offenders as well (Hanson & Morton-Bourgon, 2005). Schram et al., (1991)

and Worling and Curwen (2000) found that self-reported deviant sexual arousal was linked to recidivism in adolescent sexual offenders.

However, the relationship between deviant sexual arousal and sexual recidivism has not demonstrated as consistently in adolescent sexual offenders as it has been in their adult counterparts. In fact, some researchers have failed to find a direct empirical relationship between deviant sexual interest or fantasy and recidivism (Kenny et al., 2001; Prentky et al., 2000). However, in one of these studies, when combined with deviant sexual fantasy, cognitive distortions did predict sexual recidivism (Kenny et al., 2001), which is important in light of Righthand et al.'s (2001) research in which they reported that 65% of the youth in their sample endorsed attitudes or made statements that justified, minimized, or distorted their actions or blamed or demeaned the victim against whom they had offended.

Many authors have linked sexual offending behaviors to deviant sexual arousal. For example, Cooper et al., (1996) examined the types of behaviors (fondling only, oral sex only, anal/vaginal penetration) in which their subjects engaged, but did not examine factors such as amount of force or coercion used in the commission of the offenses. The authors were unable to differentiate between abused and non-abused offenders based on the types of sexual behaviors in which they engaged in the commission of their offenses. Burton (2000) examined differences in the types of sexual behavior in which three distinct groups of adolescent offenders engaged and found differences across groups. He found that continuous offenders, adolescents who admitted to offending since childhood, were more likely to have engaged in exhibitionism, fondling, and penetrative behaviors. Early offenders, youth who admitted to offending before age 12 but not after, were more likely to have engaged in penetrative acts solely. Adolescent offenders who reported onset of offending as subsequent to age 12, showed more of the distribution across the

possible single behaviors and combination acts. In some studies, researchers have found a significant correlation between the extent to which a youth has been victimized and behaviors (Veneziano et al., 2000) and level of aggression used during the perpetration of offenses (Burton, 2000).

Given that the five different types of trauma, sexual abuse, physical abuse, emotional abuse, and physical and emotional neglect have all been shown to relate to both sexual deviance and some aspects of sexual aggression, it will be important to examine the rates with which the current sample reported experiencing the five types of trauma. Being that researchers have demonstrated that deviant sexual arousal is related to sexual aggression and sexual recidivism, determine the prevalence of deviant sexual arousal among the current sample as well. Based on the fact that both trauma history and deviant sexual arousal are independently related to sexual aggression, it seems that the possibility exists that these variables could be related to each other, or interact with each other in ways that will influence their effect on sexual aggression.

Chapter 3: METHODS

For the purposes of this study, a pre-existing data set was analyzed (Brownlee & Burton, 2011). Prior to any data collection, appropriate Human Subjects Review Board permissions were obtained and either written assent or consent (depending on the age of the youth) was obtained from all participants. The data in the current study is comprised of assessment data collected from incarcerated youth who had engaged in sexually abusive behavior (N= 502). All of the youth in in the current data set had been adjudicated responsible for an offense of a sexual nature on at least one occasion and were serving time for sexual offense at the times the data was collected. The final data set was a combination of three subsets of data that were collected at two different points in time. The first data subset (Group 1) was derived from an assessment that was conducted in a Midwest state in 2004. A subsequent data subset was collected from a second group of youth (Group 2) from the same Midwestern state in 2009. For both Groups 1 and 2, assessment data was collected in a confidential manner. The third and final data subset (Group 3) was collected in an anonymous manner from a third sample of sexually abusive youth in an East Coast state in 2009.

Sample Characteristics

Due to the fact that none of the other three measures used in this analysis contain validity scales, high levels of social desirability were controlled for by deleting youth whose profiles on the Millon Adolescent Clinical Inventory (MACI) indicated invalid responding. As a result of using the MACI in the aforementioned manner to control for high levels of social desirability, 108 youth were dropped from the original sample due to invalid profiles or instances in which too many items were unanswered. This reduction resulted in a final sample size of 394 youth. Sample sizes in subsequent sections may not total 394 due to missing data.

On average, the youth were 16.6 years old ($SD = 1.57$ years), with a range from 12 to 20 years of age (in the states in which the data was collected, youth may be kept in the juvenile justice system until the age of 21 years). On average the youths' last completed grade was reported as 9th ($SD = 1.56$ grades) with a range of 6th grade to some college ($n=1$).

The self-identified racial distributions in this sample were mostly consistent with the racial distributions of the data outlined in the U.S. Census Bureau's (2010) reports for both states in which the data was collected.

Table 1

Breakdown of Youths' Self-Reported Racial Identity

<u>Race</u> [†]	<u>N</u>	<u>Percentage</u>
Euro American	183	46.5
African American	123	31.2
Latino/Hispanic	24	6.1
Native American	20	5.1
Other	23	5.8
Missing	21	5.3
TOTAL	394	100.00

[†] Sorted by percentage

Over 50% of the youth in this sample were raised in either two-parent families or by a single mother. Over 95% of the youth in this sample had been raised by at least one relative (parent or otherwise).

Table 2

Characteristics of the Families in which the Youth were Raised

<u>Family Raised in</u>	<u>N</u>	<u>Percentage¹</u>
Two Parent	128	32.6
Single Mom	103	26.1
Mom and Partner	64	16.2
Grandparent	26	6.6
Foster Home	19	4.8
Missing	18	4.6
Single Dad	15	3.8
Dad and Partner	12	3.0
Other Relative	9	2.3
TOTAL	394	100

¹ Sorted by percentage

Methods

Subsequent to data collection, permission was received from an institutional research and human subjects board and assents and consents were obtained from the participating youth. The data was then collected from small groups, each of which had 8 to 12 participants, within the facilities in which they youth were incarcerated. Data was collected in classroom environments in each facility through the use pencil and paper surveys. The administration of the batteries from which the data were derived took roughly 2 hours and was done during school vacation, so as not to interfere with the youths' educational and/or vocational programming. The youth were administered the surveys by master's level graduate students in social work who received 8 hours of training specific to this project, two licensed professional social workers who were

experienced working with adjudicated youth in residential placements, and graduate faculty. There was either a faculty member or an experienced, licensed social worker present to lead each of the data collection sessions and monitor the youth. Accommodations were made that enabled data to be collected from 12 adolescent males who had reading challenges in that the surveys were read aloud to them by graduate students or professional social workers who had been specifically trained in that process. To help ensure that each youth's answers were his own, the workstations were far enough apart to prevent the youth from reading each other's responses. Staff members who worked at these facilities were also present during all data collection sessions to provide additional monitoring of the youth.

Measures

For the purposes of this study a form that has been utilized in earlier studies (Burton, 2003; Burton, Leibowitz, Booxbaum & Howard, 2010, Burton et al., 2002) was used to collect detailed demographic and background information from the participants. When filling out this history and demographic form participants were asked to provide data regarding several aspects of their life histories, such as information about the family systems in which they were raised and the extent to which they had been exposed to violence. This form was also intended to gather information about numerous demographic variables, including age, grade/education level, and race of the respondents.

The *Millon Adolescent Clinical Inventory*, more commonly referred to as the MACI, is a 160 true-false item self-report inventory that is rooted in Millon's personality theory (Millon & Davis, 1996). This measure is designed to be used with youth placed in residential treatment or correctional facilities (Millon, 1993), as it was normed on 579 adolescents residing in such facilities and cross-validated on two smaller, but similar, samples. In prior research, the

Cronbach's alphas for this measure have been found to range from .73 to .91, with most internal consistencies around .80 (Retzlaff, 1995). Within two samples, the test-retest reliability after 3 to 7 days ranged from .57 to .92 (Retzlaff, 1995). Several scales on the MACI have demonstrated construct validity with other measures designed to assess constructs related to psychological and emotional functioning (Retzlaff, 1995). This measure contains three Validity Scales (Disclosure, Desirability, and Debasement), which were the only portion of this measure that was used in the current study. In this study the three MACI validity scales were used for the purpose of screening out youth in the sample whose profiles were invalid using the MACI invalidity rules. For the current samples, Cronbach's alphas for the validity scales were as follows: Disclosure = .96, Desirability = .69, and Debasement = .86.

The *Childhood Trauma Questionnaire* (CTQ) (Bernstein, Fink, Handelsman, Foote, Lovejoy, Wenzel, Sapareto & Ruggiero, 1994) is a 34-item self-report scale that is designed to screen for the presence of traumatic childhood experiences in individuals 12 and older. The CTQ was chosen because of the fact that it is relatively brief and not viewed as being so invasive that it would be likely to cause significant distress for participants. The CTQ has five subscales, each of which is comprised of between 5 and 10 items and is designed to capture how often the respondent experienced different types of traumatic events; sexual abuse, physical abuse, emotional abuse, physical neglect, and emotional neglect. This measure instructs respondents to utilize a 5-point Likert scale; (1) never true, (2) rarely true, (3) sometimes true, (4) often true, (5) very often true when answering each item. Therefore, scores on four of the scales (sexual abuse, physical abuse, emotional neglect, and physical neglect) range from 5 (no history of abuse or neglect) to between 25 and 50, depending on how many items the scale has (very significant history of abuse or neglect). It should be noted that the emotional neglect subscale is unique in

that a high score indicates the absence of emotionally neglectful experiences. Administration of this measure also provides the examiner with a CTQ Total score.

With regard to reliability, in prior research, internal consistency coefficients for the subscales have been found to range from (a) marginal (physical neglect scale with alphas of .63 to .78) to (b) acceptable (physical abuse with alphas of .81 to .86 and emotional abuse with alphas of .84 to .89), to (c) good (emotional neglect with alphas of .88 to .92 and sexual abuse with alphas of .93 to .95) (Furlong & Pavelski, 2001). With regard to test-retest reliability in prior studies, stability coefficients were all approximately .80, which indicates moderate consistency over time (Furlong & Pavelski, 2001). Factor analysis was used by the authors of this measure to determine the goodness of fit of the five-factor model to the norm groups. The levels of structural invariance across the three norm groups suggested at least moderate construct validity (Furlong & Pavelski, 2001). The Cronbach's alpha for the five trauma subscales with the current sample were all sound as follows: Sexual Abuse = .83, Physical Abuse = .91, Emotional Abuse = .90, Physical Neglect = .77, and Emotional Neglect = .93. The Cronbach's alpha for this measure's total score (CTQ Total) with the current sample was .94.

The *Self Report Sexual Aggression Scale* (SERSAS) is a multi-item inventory designed to measure the level and patterns of sexually aggressive behaviors in which a youth has engaged over the lifespan (Burton, 2003; Burton et al., 2002). The items on this instrument surveyed whether participants had engaged in a variety of sexual acts and were all prefaced with "Have you ever conned or forced someone to...?" Burton (2000) reported that this instrument produced an 8-week test-retest agreement of 96% for a sub-sample. A checklist designed to capture the extent to which a youth has engaged in sexually aggressive behavior was derived from this measure and resulted in the creation of a 15-point scale indicating level of sexual aggression. On

this scale the lowest score of 1= exhibitionism or voyeurism, 2 = fondling, 3 = exhibitionism or voyeurism and fondling, 4 = either receiving or giving oral sex, 5 = exhibitionism or voyeurism and oral sex, 6 = oral sex and fondling, 7 = oral sex and fondling, and exhibitionism or voyeurism, 8 = either penetrating or being penetrated, 9 = penetration and exhibitionism and voyeurism, 10 = penetration and fondling, 11 = penetration and fondling and exhibitionism or voyeurism, 12 = penetration and oral sex, 13 = penetration and oral sex and exhibitionism or voyeurism, 14 = penetration and oral sex and fondling, and the highest score of 15 = penetration, fondling, exhibitionism or voyeurism.

This measure is also designed in a manner that would allow researchers to gather information about the total number of victims against whom each respondent has offended. Another construct that this inventory allows researchers to measure is the level of coercion/force employed by the youth in order to gain victim compliance. Similar to the construction of the sexual aggression scale, the level of force scale was rank ordered from 1 (behaved nicely toward the victim) to 7 (being forceful, offering threats and also being nice to victims) and involved increasing combinations of behaving nicely toward the victims, using threats, and using force.

The Deviant Sexual Arousal Measure used for this project was developed by Burton in 1994, but has not been formally submitted for publication. On this measure respondents are asked to indicate the extent to which they had ever been sexually aroused by numerous sexual behaviors on a 0 (not at all) to 4 (a great deal) scale. Not all of the items on this scale represented deviant sexual interests and only those that did will be discussed and analyzed for the purposes of this study: females under the age of 12, males under the age of 12, masturbating in public, obscene phone calls, voyeurism, rape, frottage, sadism, and exhibitionism. The Cronbach's alpha for this measure with the current sample was .79.

Although Burton's Deviant Sexual Arousal measure has not been cross-validated, there are several reasons why this construct was measured via self-report in the current study. Due to the intrusive nature of the penile plethysmography (PPG), which has historically been the most common means by which deviant sexual arousal in JSOs has been assessed, there has been a move toward examining the efficacy of less invasive ways to assess sexual interests in adolescent offenders. In their 2001 study, Gretton, McBride, Hare, O'Shaughnessy, and Kumka were unable to demonstrate a relationship between deviant sexual arousal as measured by PPG and sexual recidivism in a JSO sample. For reasons such as these, Worling and Langstrom (2006) assert, "Therefore, empirical support for the contribution of deviant sexual interests to sexual-reoffending risk is presently limited to adolescent self-report..." (p. 226).

Schram et al., (1991) and Worling and Curwen (2000) found that self-reported deviant sexual arousal was linked to recidivism in JSOs. Worling (2006) assessed sexual arousal in JSOs using three different measures, the Affinity (Version 1.0) computerized measure of unobtrusively measured viewing time (VT), the Affinity self-report rating of sexual attractiveness, and a self-report sexual arousal graphing procedure. He found that response patterns to all three assessments was "remarkably similar" and ultimately concluded that structured self-report measures can be a valid tool in obtaining information about sexual interests in adolescent sexual offenders. The use of self-report measures to obtain information pertaining to deviant sexual arousal in youth is also supported by Zolondek, Abel, Northey, and Jordan (2001), who found that adolescents tend to be more forthcoming when disclosing deviant sexual arousal than adults.

Analysis

In the current study in line with the previously stated research objectives (see p. 8), descriptive statistics of the total scores on the Deviant Sexual Arousal measure were conducted on the entire sample. Then these same descriptive statistics were run on only those youth who had a total score of greater than zero on the Deviant Sexual Arousal measure. Then, the *descriptive statistics* of the entire current samples' total scores on the CTQ were generated. A correlational analysis was conducted in order to demonstrate the ways in which trauma and deviant arousal were related in the subsample of youth who had a score of greater than zero on the Deviant Sexual Arousal measure.

For the three outcome variables, in the initial analyses that were run, descriptive statistics are presented.

Prior to running regression analyses a correlational analysis of all of the variables placed into the regression models was conducted using the entire sample to ensure that the variables were related. Then hierarchical regression analyses were run on the three outcome variables (total force, number of victims and perpetration severity). In these regressions, Trauma (CTQ Total score) was entered into the first block, consistent with one underlying hypothesis of this study that trauma preceded the development of deviant arousal. Then deviant arousal was entered into the second block and the significance of F change was assessed testing for an independent contribution of deviant arousal to each model.

Chapter 4: Results

This chapter will discuss relevant results of the current study with respect to the research questions that this study aimed to answer. First, the percentage of juvenile sex offenders in the current sample who self-reported deviant sexual arousal will be reviewed and discussed. Then the percentage of youth in the current sample who endorsed experiencing each of the five types of trauma will be discussed. Next, there will be a discussion of the ways in which a youth's trauma history was related to the level of deviant sexual arousal they endorsed experiencing. Finally, regression analyses will be used to examine the way in which deviant sexual arousal impacts the relationship between a youth's trauma history and the three dependent variables (total force, number of victims, and perpetration severity score) that were used to represent sexual aggression in the current study.

The first aim of this study was to look at what percentage of the juvenile sexual offenders in this sample self-reported deviant sexual arousal. In Table 3a, the fact that the Standard Deviations are often higher than the Means speaks to the fact that there is quite a bit of variation between the youth who responded. The low prevalence rates of self-reported arousal to the items on the deviant sexual arousal scale indicate that most of the youth in this study endorsed no deviant sexual arousal to many stimuli. Of the remaining youth, most of them endorsed only being "a little bit" to "somewhat" aroused to each of the variables. However, it is worth noting that a small percentage of the youth in the current sample responded "a lot" or "a great deal" to at least one of the items.

The youth whose scores on the deviant sexual arousal measure were greater than zero (n=234), indicating that they endorsed at least a minimal level of arousal to at least one item, were separated out from the total sample of youth who provided valid responses to this measure.

Table 3a

Youths' Responses to Deviant Sexual Arousal Measure (sorted by sample mean for each question)

<u>Arousal Item</u>	<u>Not at</u>	<u>A little</u>	<u>Somewhat</u>	<u>A Lot</u>	<u>A great</u>	<u>Sample</u>	<u>SD</u>
	<u>all</u>	<u>bit</u>			<u>deal</u>	<u>Mean</u> ¹	
Females under 12	68.4%†	20.7%	7.3%	2.8%	.8%	.47	.81
Rape	75.0%	14.2%	7.0%	2.8%	1.0%	.41	.82
Voyeurism	77.2%	12.3%	6.4%	2.1%	2.1%	.39	.86
Obscene phone calls	82.5%	8.0%	6.4%	1.0%	2.1%	.32	.81
Frottage	79.5%	12.2%	5.4%	2.1%	.8%	.32	.74
Males under 12	84.4%	10.6%	2.4%	1.6%	1.1%	.24	.68
Exhibitionism	84.1%	10.5%	3.3%	1.5%	.5%	.24	.64
Sadism	87.7%	6.4%	3.3%	1.8%	.8%	.22	.66
Masturbating in public	94.6%	3.1%	1.5%	0%	.8%	.09	.46
Bestiality	96.7%	2.3%	.5%	.3%	.3%	.05	.33

n=394

†percentages are valid percent – or, percentage of those that responded to the question, for no question was there more than 4.1% (males under 12- the rest were 2.0% or less) missing responses

¹ Sorted by average from highest to lowest

In Table 3b a breakdown of the frequency with which each item was endorsed by the youths is provided.

Table 3b

Subsample's Responses to the Deviant Sexual Arousal Measure (those youth who had more than zero for a Total Score on the Deviant Sexual Arousal Measure)

	<u>Mean (sample)</u>	<u>SD</u>
Males under age 12	.81	.95
Females under age 12	.81	.95
Rape	.75	1.04
Voyeurism	.65	1.00
Frottage)	.59	.93
Obscene phone calls	.56	1.0
Exhibitionism	.44	.83
Sadism	.37	.83
Masturbating in public	.16	.59
Beastiality	.09	.41

n= 234

The second aim of the current study was to report the rates of the five types of traumatic experiences that the youth surveyed endorsed. With regard to prevalence of trauma histories among the youth surveyed, approximately 97% of the youth in this study reported having experienced at least some type of some abuse or neglect. In the current sample, 68.6% of the youth who responded to the survey reported being sexually victimized to some extent.

Seventy-three point six percent of the sample endorsed items indicating they experienced some degree of physical abuse and 68% of the youths' responses indicated they had been emotionally abused at some point. With regard to neglect, 75.2% of the current sample endorsed having experienced emotional neglect and 80.1% reported experiencing some form of physical neglect at some time.

Table 4

Trauma Histories of Youth

<u>Scale name¹</u>	<u>Mean (SD)</u>
Emotional Abuse	10.35 (5.98)
Emotional Neglect	18.23 (8.88)
Physical Abuse	10.66 (6.08)
Physical Neglect	14.78 (5.79)
Sexual Abuse	11.00 (6.08)
CTQTOTAL	66.74 (25.66)

¹ Sorted alphabetically by subscale name

The third aim of the current study was to examine the relationship between trauma histories and deviant sexual arousal in this sample of JSOs. In the table below (Table 5), the

Table 5

Correlations between Deviant Sexual Arousal and CTQ Trauma Scales

	Deviant Sexual Arousal	CTQ Sexual Abuse	CTQ Physical Abuse	CTQ Emotional Abuse	CTQ Emotional Neglect	CTQ Physical Neglect	CTQ Total Score
Deviant Sexual Arousal	1.0						
CTQ Sexual Abuse	.29***	1.0					
CTQ Physical Abuse	.29***	.41***	1.0				
CTQ Emotional Abuse	.32***	.41***	.86***	1.0			
CTQ Emotional Neglect	.14**	.19***	.49***	.51***	1.0		
CTQ Physical Neglect	.18***	.40***	.60***	.55***	.39***	1.0	
CTQ Total Score	.30***	.60***	.85***	.85***	.79***	.74***	1.0

* = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$

results show that deviant sexual arousal was significantly positively correlated to all five types of trauma measured by the CTQ and to the CTQ Total Score.

Table 6

Perpetration/Sexual Crime Severity Score (P Score)

<u>P Score Severity Level</u>	<u>N</u>	<u>%</u>
Level 1 = exposure or voyeurism	11	2.8
Level 2 = fondling	25	6.3
Level 3 = exposure or voyeurism and fondling	14	3.6
Level 4 = giving or receiving oral sex	25	6.3
Level 5 = oral sex and exhibitionism or voyeurism	1	.3
Level 6 = oral sex and fondling	17	4.3
Level 7 = oral sex and fondling and exhibitionism or voyeurism	21	5.3
Level 8 = penetration	23	5.8
Level 9 = penetration and exhibitionism or voyeurism	5	1.3
Level 10 = penetration and fondling	11	2.8
Level 11 = penetration and fondling and exhibitionism or voyeurism	10	2.5
Level 12 = penetration and oral sex	14	3.6
Level 13 = penetration and oral sex and exhibitionism or voyeurism	6	1.5
Level 14 = penetration and oral sex and fondling	19	4.8
Level 15 = penetration and oral and fondling and exhibitionism or voyeurism	55	14.0
Total of Valid Responses	257	65.2
Missing	137	34.8

The mean P Score was 8.7 ($SD = 4.86$ P Score levels), indicating that many of the 257 youth who provided valid responses to this measure engaged in sexual acts up to and including penetration during the commission of their offenses. Slightly more than half of the youth who

responded reported engaging in penetrative acts against the victims of their offenses. In fact, the largest percentage of youth who responded (21.4%) indicated that their offense had involved a combination of all levels of force (penetration, oral sex, fondling, exhibitionism, and voyeurism).

Approximately 60% of the youth who provided answers regarding the level of force they used in their offending indicated they only acted nicely toward their victims to gain compliance. It is also interesting to note that approximately 10% of those youth who responded reported that they acted nicely, used threats, and used force in the commission of their offending behavior. This could indicate that the youth used all three means to gain compliance over the course of one offense; more severe force was used when victim compliance was unable to be obtained using less force. Alternately, if a youth committed more than one offense, this could suggest that they

Table 7

Levels of Force Used in Youths' Offenses

<u>Level of Force Used</u>	<u>N</u>	<u>%¹</u>
Threats	2	.5
Force and threats	3	.8
Threats and nice	18	4.6
Force and nice	19	4.8
Force	22	5.6
Force and threats and nice	24	6.1
Nice	137	34.8
Missing	169	42.9
TOTAL	255	100.0

¹Sorted by % from lowest to highest

progressed to using increasing levels of force in subsequent offenses.

Approximately 75% of the 380 youth who responded in a valid manner to this item

Table 8

<i>Number of Reported Victims</i>		
<u>Number of Reported Victims</u>	<u>N</u>	<u>%</u>
1	240	60.9
2	47	11.9
3	35	8.9
4	17	4.3
5	11	2.8
6	4	1.0
7	8	2.0
8	2	.5
9	2	.5
10	1	.3
11	1	.3
12	3	.8
13	3	.8
16	1	.3
22	1	.3
24	2	.5
28	1	.3
49	1	.3
Missing	14	3.6
TOTAL	394	100.0

reported having one or two victims. The mean number of victims reported by respondents was 2.46, with a Standard Deviation of 4.00 victims. However, while 90% of the youth responded reported having 4 victims or less, the additional 10% of the respondents reported having between 5 and 50 victims each. This indicates that while 339 youth (approximately 90%) reportedly victimized 507 individuals, the remaining 41 of the youth surveyed (approximately 10%) reported victimizing a total of 373 individuals.

Before regression analyses could be performed on the selected data from the data set, correlation analyses had to be performed (see Table 9). The extent to which Age was correlated to the outcomes variables was reviewed. However, given that Age was not significantly correlated to Deviant Sexual Arousal, it was not examined in the regression analyses. Of note is the fact that the Deviant Sexual Arousal variable was significantly positively correlated to all other variables. Also noteworthy is the extent to which Deviant Sexual Arousal was positively correlated with Number of Victims, as correlations this high are uncommon.

In order to assess the way in which Deviant Sexual Arousal affected the relationship between trauma and each of the three measures of sexual aggression/outcome variables (Number of Victims, P Score, and Total Force), hierarchical regressions were used, and as indicated in Tables 9, 10, and 11, respectively, regression analyses were performed. As a result of the fact that the CTQ Total score correlated significantly to all of the CTQ scales (see Table 9), the CTQ Total score, as opposed to the scores from each of the five trauma subscales, was used as the independent variable in the regression models to prevent multicollinearity. The CTQ Total score was the first variable entered into each of the regression equations in both models that were

Table 9
Correlations

	Sexual abuse	Physical abuse	Emotional abuse	Emotional neglect	Physical neglect	CTQ total score	P score	Total force	Total number of victims reported	Deviant Sexual Arousal	Age
Sexual abuse	1.0										
Physical abuse	.41***	1.0									
Emotional abuse	.41***	.86***	1.0								
Emotional neglect	.19***	.49**	.51***	1.0							
Physical neglect	.40***	.60***	.55***	.39***	1.0						
CTQ total score	.60***	.85***	.85***	.75***	.74***	1.0					
P score	.97	.10	.14*	.08	.08	.12*	1.0				
Total force	.17*	.13*	.15*	.20**	.27***	.25***	.19**	1.0			
Total number of victims	.28***	.23***	.26***	.17***	.12*	.27***	.32***	.19**	1.0		
Deviant Sexual Arousal	.29***	.29***	.32***	.14**	.18***	.30***	.25***	.19**	.44***	1.0	
Age	.06	.10	.14**	.04	.10	.11*	.05	.14*	.17***	.10	1.0

*** = p ≤ .001

** = p ≤ .01

* = p ≤ .05

applied to each of the three dependent variables, as the variables were entered in presumed chronological order.

The first model illustrated in each of the regression tables (Tables 10, 11, and 12) represents the relationship between Trauma and Number of Victims, P Score, and Total Force, respectively. In the second model, Deviant Sexual Arousal was added into the equation via a mediator analysis that was performed on each of the three dependent variables/measures of sexual aggression (Number of Victims, P Score, and Total Force). The Significance of the F Change statistic provided in each regression table (Tables 10, 11, and 12) indicates that for each measure of sexual aggression, the second model was significantly different than the first model. In other words, adding deviant sexual arousal into the regression significantly contributed to the model.

Table 10

Regression for Number of Victims								
Predictor	Model 1				Model 2			
	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>P</i>	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>P</i>
CTQ	.043	.008	.265	>.001	.024	.008	.147	.004
Total								
Deviant Sexual Arousal					.383	.049	.391	>.001
Model Statistics								
	<i>F</i>	<i>P</i>	<i>R2</i>		<i>F</i>	<i>P</i>	<i>R2</i>	<i>Sig. F Change</i>
	26.13	<.001	.070		45.63	<.001	.209	<.001

In the first linear regression model for Number of Victims, CTQ Total was initially found to account for 7% of the variance in the total number of victims, the first of three variables related to sexual aggression used in the current study. When Deviant Sexual Arousal was added into the equation, it accounted for an additional 13.9% of the variance in Total Number of

Victims. This indicates that Model 2 is an additive model; the combination of CTQ Total and deviant sexual arousal accounts for more of the variance in Number of Victims than CTQ Total alone. However, both models and variables remained significant. Although the amount of variance in Number of Victims accounted for by the second model was not very large, it was significant.

Table 11

Regression for P Score (Perpetration/Sexual Crime Severity Score)

Predictor	Model 1				Model 2			
	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>P</i>	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>P</i>
CTQ Total	.024	.012	.130	>.001	.017	.012	.089	.164
Deviant Sexual Arousal					.256	.069	.238	<.001
Model Statistics								
	<i>F</i>	<i>P</i>	<i>R2</i>		<i>F</i>	<i>P</i>	<i>R2</i>	<i>Sig. F Change</i>
	4.07	.045	.017		9.10	< .001	.072	<.001

As is shown in the table above (Table 11), in Model 1, CTQ Total accounted for slightly less than 2% of the variance of sexual crime severity (P Score), which while low, was significant. When deviant sexual arousal was entered into the regression equation, CTQ Total no longer accounted for a significant amount of the variance in sexual crime severity or P Score; Deviant Sexual Arousal mediated the relationship between CTQ Total and P Score.

When examining Table 12, which shows the results of the regression of Total Force, the third and final variable used to capture sexual aggression, CTQ Total accounted for 5.9% of the variance in Total Force in Model 1. In Model 2, when Deviant Sexual Arousal was combined with CTQ Total, the amount of the variance in Total Force accounted for increased slightly to 8%. This indicates that this is an additive model as well, similar in nature to the model that resulted from the regression analyses for Number of Victims, which was depicted in Table 10.

Table 12

Regression for Total Force

Predictor	Model 1				Model 2			
	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>P</i>	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>P</i>
CTQ	.020	.006	.242	<.001	.018	.006	.213	.002
Total Deviant Sexual Arousal					.068	.031	.149	.030
Model Statistics								
	<i>F</i>	<i>P</i>	<i>R2</i>		<i>F</i>	<i>P</i>	<i>R2</i>	<i>Sif. F Change</i>
	12.81	<.001	.059		8.91	<.001	.080	.030

Chapter 5: Discussion

Of the 394 youth who responded to the Deviant Sexual Arousal measure, slightly more than half ($n = 234$) reported some degree of deviant sexual arousal. This rate is very high when compared to rates of deviant sexual arousal reported in the majority of other studies that used plethysmograph data. In those studies, between 6% and 11% of those samples were reported to exhibit deviant sexual arousal (Becker et al., 1989; Becker et al., 1992; Hunter et al., 1994; Mur). Even Able (1995), who found rates of deviant arousal in his sample that were somewhat higher than his colleagues, did not find rates of deviant sexual arousal approaching 50%. This may be because Burton's Deviant Sexual Arousal measure was more sensitive than other measures and actually detected the presence of deviant sexual arousal more effectively than either PPG assessment or viewing time measures.

Another possible explanation for the seemingly high rates of deviant arousal found in the current study could be that no cutoff score was used to determine a level at which deviant arousal was "significant," or the level at which it was more representative of a pattern of sexual arousal in which deviant material was as or more sexually arousing than normative stimuli. Hanson and Morton-Bourgon's (2005) have asserted, "Although all sexual offending is socially deviant, men who commit such acts do not necessarily have enduring preferences for such behavior," (p. 1154). If extrapolated to adolescent sexual offenders, this assertion seems to suggest that while many of the adolescent sexual offenders in this sample reported experiencing a minimal amount of arousal to stimuli/acts that are typically classified as deviant at some point, does not mean they have a persistent pattern of deviant sexual arousal. Therefore, just because a youth reports being "a little bit" sexually aroused by deviant stimuli does not mean he has an appetitive deviant sexual arousal pattern.

I explored this further in this data by counting the number of youth who endorsed being “somewhat,” “a lot,” and “a great deal” aroused by any item on the Deviant Sexual Arousal measure; this group consisted of less than 11% of the sample, which is more consistent with previously cited rates of deviant sexual arousal that were found in similar previous studies (Becker et al., 1989; Becker et al., 1992; Hunter et al., 1994; Murphy et al., 2001).

Another reason why approximately 50% of the youth who responded to the Deviant Sexual Arousal measure reported finding deviant sexual stimuli arousing to some degree at some point in time could be due to the fact that youth have been found to be more honest about their sexual interests and activities than adult counterparts (Zolondek, Able, Northey, & Jordan, 2001). The fact that data was collected in either an anonymous or confidential manner could have added to the youths’ willingness to accurately report on experiences that tends to be regarded as socially taboo and can, therefore be difficult to discuss openly in other forums.

The percentage of youth in this sample who endorsed experiencing the five types of trauma was fairly similar to rates found in previous studies (Leibowitz et al., 2011), in which sexually abusive youth reported higher rates of all five types of trauma than their non-sexually abusive delinquent peers (Burton, 2008). This finding is significant with regard to the current study because it offers support to the notion that all types of trauma histories can be seen, at least to varying degrees, as important etiological variables in the development of sexual aggression, a hypothesis that underlies the current study.

In the current study Deviant Sexual Arousal was significantly positively correlated to all five of the trauma scales on the CTQ as well as to the CTQ Total scores. As the youths’ reports of all types of traumatic experiences increased, so did the level of deviant sexual arousal they endorsed; the youth who reported having the most extensive trauma histories also indicated

having the highest levels of deviant sexual arousal. This finding is consistent with the hypothesis that underlies the current study; all the types of trauma are related to deviant sexual arousal, not just sexual abuse. However, not all types of trauma are as strongly correlated to Deviant Sexual Arousal; in the current study CTQ Emotional Abuse was most strongly correlated, while CTQ Emotional Neglect demonstrated the weakest correlation to deviant sexual arousal. Despite the fact that the relationship between a youths' trauma history and the subsequent development of deviant sexual arousal cannot be classified as causal, the fact that Deviant Sexual Arousal was significantly correlated to all types of trauma possibly indicates that something about experiencing a higher degree of trauma potentially makes a youth vulnerable in some way that could predispose them to experiencing deviant sexual arousal.

With regard to the three outcome measures that represented sexual aggression in the current study, there were some interesting findings. For example, regarding the Level of Force used in the commission of offenses, it appears that the youth in this sample may have used less force to gain victim compliance than a sample JSOs in a similar study (Righthand et al., 2001). In their 2001 study, Righthand et al., reported that approximately 30% of the youth in their sample used either physical force or physical restraint, which can be viewed as a means of applying force, to gain victim compliance. In the current sample, if all those who reported using force either alone or with other means of attaining compliance are added up, it accounts for slightly less than 18% of those youth in the current sample who responded to this question. The different results in the Righthand et al. (2001) study could be due to sampling: they sampled their participants' most serious sexual offense, which would be likely to result in a higher percentage of reported force, and is distinct from this study.

With regard to P Score, or sexual crime severity, the percentage of youth in the current study (approximately 50%) who reported engaging in penetrative sexual acts during the commission of their sexual offenses was largely consistent with what has been previously reported (i.e., Righthand et al, 2001; Finkelhor, Ormand, & Chaffin, 2009). In one study that looked at the types of acts involved in the youths' sexual offenses, greater than 50% of the offenses involved penetration (Righthand et al., 2001). Finkelhor et al., (2009) examined characteristics of juveniles who committed sexual assaults based on data that was collected by the National Incident-Based Reporting System (NIBRS), a database maintained by the United States Federal Bureau of Investigations, and reported that 42.5% of the youth in their sample had committed rape, sodomy, or sexually assaulted the victim with a sexual object, all of which can be conceptualized as penetrative acts.

In their 2001 study, the authors (Righthand et al., 2001) reported that 19% of their respondents reported engaging in both oral sex and penetration, which is significantly higher than rate for this combination of sexual acts found in the current study (3.6%). It should be noted that oral sex was not a type of sexual act that was explicitly looked at in Finkelhor et al.'s (2009) study. It seems likely that this is due to the authors' use of a database developed with the intention of tracking legally determined offenses. There are very few states in which any legal sexual offenses deal explicitly with oral sex. In most states, offenses involving oral sex are classified as rape, because rape is often defined as penetration of any orifice by any object.

In the current sample, 6.3% of youth reported engaging solely in fondling behaviors, which seems low compared to Righthand et. al's (2001) study in which it was reported that 17% of the sample had engaged in "molestation" and when compared to the 47.2% of the JSOs in Finkelhor and colleagues' (2009) sample who had engaged in fondling. However, the seemingly

significant disparity between Finkelhor et al.'s (2009) findings and the results of the current study could be accounted for by the fact their results represent juveniles who were arrested for fondling-type offenses; this does not mean that the youth in their sample did not also engage in other sexual acts during the commission of those offenses.

For Total Force and Total Number of Victims, the combination of CTQ Total and Deviant Sexual Arousal accounted for significantly more of the variance in these two outcome variables, than CTQ Total alone. For these two outcome variables, even when the total amount of variance for which CTQ Total accounted was completely controlled for, Deviant Sexual Arousal was still found to be a significant predictor of Number of Victims and Total Force. This means that even if trauma history contributes to the development of deviant sexual arousal in JSOs, that deviant sexual arousal contributes to certain aspects of sexual aggression above and beyond the extent to which trauma alone does.

With regard to the third outcome variable, Perpetration Severity Score/Sexual Crime Severity, when Deviant Sexual Arousal was added to the regression equation in Model 2, CTQ Total was no longer a significant direct contributing factor to Sexual Crime Severity. According to the results of this regression analysis, whenever deviant sexual arousal is present, it accounts for the relationship between a youth's trauma history and the severity of his sexual crime. This finding is interesting in light of the abused-abuser hypothesis of sexual offending; when Social Learning Theory is applied to sexual offending behavior, researchers (Burton & Meezan, 2004; Garland & Dougher, 1990) have argued that more severe victimization should predict more severe or aggressive sexually abusive behavior. This linear relationship was not supported in the current study once deviant sexual arousal was added into the equation.

However, perhaps it is worth considering that this relationship exists in an indirect way. It could be that JSOs with more severe victimization histories are at an increased risk for developing a deviant sexual arousal pattern because regardless of the way in which the abuse to which the JSO is subjected (the modeled event) is severe, the increased severity increases the salience of the experience of being sexually abuse for the youth. In line with Social Learning Theory, more severe abuse would be more evocative and would more strongly impact the youth, which would then increase the likelihood that the modeled event would be rehearsed or replicated by the youth. However, according to the authors of Social Learning Theory, prior to the youth behaviorally reenacting the abuse, he must create a mental template, so to speak, of the experience and will likely rehearse the abusive behavior cognitively before actually acting out. If the JSO found his own victimization at all rewarding or pleasurable, it could be that he will find the process of remembering or cognitively rehearsing his own abuse pleasurable or even arousing, which then could arguably convert this cognitive rehearsal process into a deviant sexual fantasy. This would be consistent with Knight et al.'s assertion (2008) that sexual aggression is mediated through deviant sexual fantasy. Therefore, even though the severe sexual abuse the youth endured was significant, deviant sexual arousal is what comes to account for the relationship between that trauma history and subsequent sexually aggressive behavior.

Implications for Assessing and Treating JSOs

Despite the fact that only a small percentage of the youths in this sample indicated having “a lot” or “a great deal” of arousal to certain deviant stimuli, approximately 50% of the responding youth self-reported some deviant sexual arousal. This result is significant enough to warrant that all clinicians who work with juvenile sex offenders should inquire into their clients’ deviant sexual arousal. It should at least be addressed with many youth in treatment, perhaps via

psychoeducation, and it should be a significant focus in treatment for a few youth, because deviant sexual arousal has been found significantly related to recidivism in JSOs (Hanson & Morton-Bourgon, 2005; Schram et al., 1991; Worling & Curwen, 2001). Researchers have asserted that the use of self-report measures to determine the presence of this construct is indicated because youth tend to be more honest about such things than their adult counterparts (Zolondek, Abel, Northey, & Jordan, 2001). In theory, this would imply that clinicians could also rely on a youth's self-report in treatment to provide accurate information about the extent to which he is aroused by deviant stimuli.

That deviant sexual arousal was found to account for the relationship between a youth's trauma history and the severity of his sexual crime indicates that for those youth who endorse a relatively high degree of deviant sexual arousal, this should be the primary area of treatment focus rather than their trauma histories. On the other hand, for youth who endorse having experienced high degrees of trauma, but either completely deny experiencing or report experiencing very little deviant sexual arousal, but have nonetheless engaged in sexually aggressive acts that are severe in nature, it seems appropriate to address those youths' trauma history, because trauma was found to be significantly predictive of sexual crime severity prior to deviant sexual arousal being added to the regression equation in the current study.

Clinical Practice Implications

Above, the importance of asking juvenile sex offenders about the extent to which they experience deviant sexual arousal was discussed. However, actually asking a youth about the extent to which he experiences deviant sexual arousal as opposed to asking him to confidentially or anonymously report this information on a paper and pencil survey in a research study requires that a strong therapeutic alliance has been established. Marshall and Burton (2010) asserted,

“Therapeutic alliance refers to the extent to which a therapist and client can work together, which to a large extent, is a function of the style of the therapist,” (p. 142). The authors of one meta-analytic review demonstrated that therapeutic alliance was moderately, but consistently related to treatment outcome in general (Martin, Grasse, & Davis, 2000). Several researchers (Marshall, Fernandez, Serran, Mulloy, Thornton, Mann, & Anderson, 2003; Marshall, Serran, Fernandez, Mulloy, Mann, & Thornton, 2003; Marshall, 2005) found that therapist style (the ability to convey warmth and empathy, and to be perceived by the client as genuine) contributed significantly to outcome in the treatment of adult sexual offenders. Similarly, Drapeau (2005) and Drapeau, Korner, Brunet, and Granger (2004) reported that adult sexual offenders in their studies identified therapist characteristics and the quality of the therapeutic relationship as the factors that they experienced most saliently in treatment. Although the relationship of therapeutic alliance and therapist variables has not been as widely studied with regard to adolescents and adolescent offenders, it has been suggested that the therapeutic relationship (Shirk & Karver, 2003; Karver, Handelsman, Fields, & Bickman, 2004) and counselor interpersonal skills, including the ability to facilitate a warm, empathic, and genuine atmosphere are equally, if not more, important with this population (Karver et al., 2004).

However, sometimes, therapists may find it difficult to remain therapeutically aligned with an individual who discloses something such as deviant sexual arousal, which can be perceived as traumatic or aversive by the therapist. Moulden and Firestone (2010) assert: “Many clinicians at various points in their career, will encounter uncomfortable feelings, reactions, thoughts, and behaviors related to their work with those who sexually offend” (p. 377). It has been argued that such experiences that come from working in the mental health profession in general, and with a population that has perpetrated sexual violence specifically, can contribute to

vicarious traumatization (Way, VanDeusen, Martin, Applegate, & Jandel, 2004), burnout (Steed & Bicknell, 2001), or compassion fatigue (Moulden & Firestone, 2010). In addition to the personal consequences of providing therapy to sexual abusers, such as emotional dysregulation (Edmunds, 1997; Farrenkopf, 1992), an increase in experience of negative affect (Edmunds, 1997; Mac Ian, 1995), the emotional toll of working with this population can affect therapists professionally because the therapeutic relationship can be negatively impacted (Moulden & Firestone, 2010). Given that therapeutic alliance has been found significantly related to treatment outcome in JSOs (Shirk & Karver, 2003; Karver et al., 2004), if a therapist's ability to form healthy alliances with JSOs is compromised, the efficacy of treatment can be negatively impacted by this (Moulden & Firestone, 2010).

Moulden and Firestone (2010) go on to assert that in order to provide ethical treatment to individuals who have sexually offended, that therapists need to engage in self-care, part of which involves having supportive supervision and consultation. They assert:

Too often the important work of addressing the therapist's reactions is overlooked due to a number of possible reasons including, (a) the assumption that the therapist should not be affected by his or her work, or address it personally, (b) clinician's embarrassment about being affected by his or her work, (c) supervisor's discomfort in addressing personal issues in the clinician, and (d) an attempt by both parties to respect professional boundaries within the relationship. (p. 382).

Therefore, it is vital that therapists who are new to working with sex offenders as well as those who have done this work for years have access to supportive supervision and training so they can be as effective as possible in working with a population whose disclosures can impact them. Providing clinicians with adequate support, training, and supervision will likely allow them to

establish and maintain strong therapeutic alliances with the JSOs with whom they work, which will allow them to remain non-judgmental even when their clients report experiencing deviant sexual arousal.

Research Implications

The fact that deviant sexual arousal acted as a mediator between CTQ Total and Perpetration Severity Score adds support to the earlier stated hypothesis it is important to examine the ways in which etiological variables that are significantly related to sexual aggression interact. The results of the current study indicate that doing so may help account for more of the variance in sexual aggression and potentially contribute to the development of more comprehensive models of sexually aggressive behavior in JSOs. This is a direction in which future researchers might find it valuable to go.

The fact that in the current study a history of experiencing significant emotional abuse, as captured by the CTQ, was more strongly correlated to deviant sexual arousal than other type of traumatic experience or even CTQ Total score indicates that perhaps aspects of this relationship warrant consideration in future research. Perhaps there is something about the experience of being emotionally abused that makes JSOs particularly vulnerable to experiencing deviant sexual arousal, perhaps experiencing emotional abuse somehow affects the youth's ability to form healthy attachments and this unhealthy attachment style somehow acts as an intermediary in the development of deviant sexual arousal. It would also be worth examining if rates of emotional abuse differ in youth who have victimized younger children versus those who have victimized peers or adults to see if emotional abuse contributes equally to different types of deviant sexual arousal.

The relationship between deviant sexual arousal and emotional abuse that was found in the current study is also interesting being that other researchers (Robertson & Burton, in press) have found that Physical Neglect as measured by the CTQ was most significantly correlated to general delinquency in adolescents. Perhaps differences in the trauma histories of JSOs and their non-sexually abusive, but delinquent counterparts do exist and account, at least in part, for the development of deviant sexual arousal, which has been demonstrated in the current study to be significantly positively correlated to sexual aggression.

Future researchers should work toward determining what cutoff score would be appropriate to use with Burton's Deviant Sexual Arousal measure in the hopes of determining if there is a significant difference between those youth who report a higher level of deviant sexual arousal than a given cutoff score and those who do not. As was discussed earlier, it could be that those youth who score above a certain cutoff are the youth who have a deviant sexual arousal pattern, as opposed to having been aroused by acts/stimuli that are typically considered deviant at some point in time. If deviant sexual arousal is linked to sexual recidivism in juvenile sexual offenders (Hanson & Morton-Bourgon, 1995; McCann & Lussier, 2008), then finding a cutoff score that meaningfully differentiates between JSOs who report significant amounts of deviant sexual arousal and those who do not will be important. Establishing this cutoff score would also allow treatment providers to identify youth for whom deviant sexual arousal should be considered a significant treatment target, as it would follow that helping youth learn to effectively manage their deviant sexual arousal may help reduce sexual recidivism in this population.

Limitations

It could be that the seemingly high rates of some extent of deviant sexual arousal endorsed by the youth in this sample can be accounted for by the methodological differences between the current study and previous studies; this study used a self-report measure to examine rates of deviant sexual arousal where as previous studies have used PPG data. Although support for the use of self-report measures of deviant sexual arousal can has been offered by some researchers (Worling, 2006; Worling & Curwen, 2001), the possibility that youth over-reported or even lied about the extent to which they have been sexually excited by deviant stimuli does exist. However, the fact that all participants whose validity scale scores on the MACI suggested an undesirable response style were eliminated should have helped to control for this. Another possible limitation of using Burton's self-report deviant sexual arousal measure was alluded to in the previous section: perhaps using this measure without a cutoff does not effectively discriminate between youth whose sexual arousal is driven by a deviant sexual arousal pattern and those who have simply been aroused by deviant stimuli or acts on occasion. However, as discussed earlier, it could be that the self-report measure used in the current study is more sensitive than a PPG assessment, which does use a cutoff score to differentiate between levels of deviant sexual arousal that are deemed significant and those that fall below that cutoff.

Another factor that could have contributed to the findings in the current study was the sample size. While the sample size was larger than many studies that have examined the construct of deviant sexual arousal in juvenile sex offenders, a larger sample size could add further statistical power to the regression analyses in the study.

Concluding Statements

Neither trauma history nor deviant sexual arousal were found to be significantly and independently related to Number of Victims and Total Force, two of the outcome variables used to represent sexual aggression in the current study. Regarding the third outcome measure, deviant sexual arousal accounted for the relationship between trauma and perpetration/sexual crime severity. These results have implications for clinicians who work with juvenile sex offenders and for researchers who choose to study this population.

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